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TURNER, KATHERINE ANN				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/551,582

Applicant(s)

KANAI, TAKESHI

Examiner

Katherine Turner

Art Unit

1795

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 7-11 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 and 13 is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/083)
- Paper No(s)/Mail Date 9/29/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Election/Restrictions

1. Restriction is required under 35 U.S.C. 121 and 372.

This application contains the following inventions or groups of inventions which are not so linked as to form a single general inventive concept under PCT Rule 13.1.

In accordance with 37 CFR 1.499, applicant is required, in reply to this action, to elect a single invention to which the claims must be restricted.

Group I, claim(s) 1-6 and 12-13, drawn to a radiating member and method for producing a radiating member.

Group II, claim(s) 7-11, drawn to a battery pack system having the radiating member according to claim 6.

2. The inventions listed as Groups I and II do not relate to a single general inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: the common technical feature in both groups is a radiating member according to claim 6. This element cannot be a special technical feature under PCT Rule 13.2 because the element is shown in the prior art.

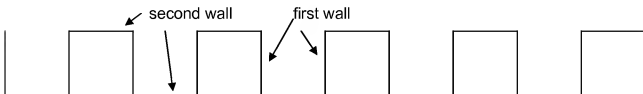
Yamashita et al. (JP 2003-068257, cited in IDS, refer to JPO machine translation for citation) discloses a covering wall (16) which is a cooling passage wall (Applicant's radiating member) for a laminated cell, covered with a laminate material (drawings 1-8; [0001]; [0008]; [0024]), which is in contact with a surface of the laminated cell to cool the cells by transporting the heat from the cells to the air in the cooling passage (Applicant's

radiate heat produced by the laminated cell ([0024]), the covering wall (16) is arranged for close contact with a sheathed surface of the laminated cell (drawings 1-8; [0019]; [0024]), and the covering wall (16) is made of a single plate aluminum material ([0018]). Yamashita et al. is silent as to the radiating member having a plurality of first wall, and second wall.

Nishimura et al. (JP 10-112301, cited in IDS, refer to JPO machine translation for citation) teaches the use of an air-cooling spacer (2) stuck on (Applicant's in close contact with) the surface of a battery, the air-cooling spacer (2) is a square wave shape made of a single plate aluminum material ([0010]). Nishimura et al. teaches that the air-cooling spacer (2) has a large touch area with open air which improves the heat radiation, and the square wave shape is excellent when applying pressure ([0010]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Yamashita et al.'s covering wall (16) with Nishimura et al.'s square wave shaped air-cooling spacer (2), because the air-cooling spacer (2) has a large touch area with open air which improves the heat radiation, and the square wave shape is excellent when applying pressure, as taught by Nishimura et al. ([0010]).

Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) would have the following shape:



A square wave shaped air-cooling spacer (2) (Applicant's radiating member) has a plurality of first wall, and a plurality of second flat wall connected to the first wall and arranged substantially at right angles to the first wall.

3. During a telephone conversation with J Lytle on September 16, 2008 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-6 and 12-13. Affirmation of this election must be made by applicant in replying to this Office action. Claims 7-11 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Priority

4. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

5. The drawings are objected to because the radiating member is referenced as "32" in the specification (page 16, line 23) and "32b" in figure 6a, and because radiating member in second embodiment is referenced as "2" in specification (page 16, lines 24-25) and "22" in figure 5.

6. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "77" (page 23, line 25).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

7. The disclosure is objected to because of the following informalities: in the brief description of the drawings there is a first embodiment (figures 1-4), second embodiment (figure 5), third embodiment (figure 6a-6c), and a fifth embodiment (figures 11a-11b), but there is no mention of a fourth embodiment (pages 8-9), and later in the specification figure 10 is labeled as the fourth embodiment (page 22, lines 7-10); specification references figure 12 (page 23, line 18), but there is no figure 12, there are figures 12a-c though.

Appropriate correction is required.

Claim Objections/Interpretation

8. Claim 3 recites the limitation lattice-shaped ventilation frame. The specification points to figure 3c as a representation of a lattice-shaped ventilation frame (page 8, lines 17-18; page 10, lines 17-18). Figure 3c shows a rectangular wave pattern radiation member sandwiched between two relatively flat surfaces. Thus, lattice-shaped ventilation frame is being interpreted as a rectangular wave pattern radiation member sandwiched between two relatively flat surfaces.

9. Claims 4-8 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). For the purposes of compact prosecution claim 4 is being interpreted as depending from claims 1 or 2 only and not on claim 3.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

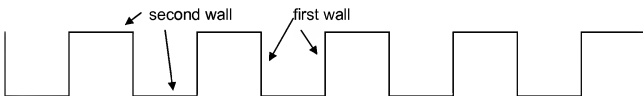
12. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamashita et al. (JP 2003-068257, cited in IDS, please refer to JPO machine translation for citation) in view of Nishimura et al. (JP 10-112301, cited in IDS, please refer to JPO machine translation for citation).

Regarding claim 1, Yamashita et al. (JP 2003-068257, cited in IDS, refer to JPO machine translation for citation) discloses a covering wall (16) which is a cooling passage wall (Applicant's radiating member) for a laminated cell, covered with a laminate material (drawings 1-8; [0001]; [0008]; [0024]), which is in contact with a surface of the laminated cell to cool the cells by transporting the heat from the cells to the air in the cooling passage (Applicant's radiate heat produced by the laminated cell) ([0024]), the covering wall (16) is arranged for close contact with a sheathed surface of the laminated cell (drawings 1-8; [0019]; [0024]), and the covering wall (16) is made of a single plate aluminum material ([0018]). Yamashita et al. is silent as to the radiating member having a plurality of first wall, and second wall.

Nishimura et al. (JP 10-112301, cited in IDS, refer to JPO machine translation for citation) teaches the use of an air-cooling spacer (2) stuck on (Applicant's in close contact with) the surface of a battery, the air-cooling spacer (2) is a square wave shape made of a single plate aluminum material ([0010]), with a thickness in a desired range from 0.1mm to 2mm (Abstract). Nishimura et al. teaches that the air-cooling spacer (2) has a large touch area with open air which improves the heat radiation, and the square wave shape is excellent when applying pressure ([0010]).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to substitute Yamashita et al.'s covering wall (16) with Nishimura et al.'s single plate aluminum, with thickness range 0.1mm to 2mm, square wave shaped air-cooling spacer (2), because Nishimura et al.'s air-cooling spacer (2) has a large touch area with open air which improves the heat radiation, and the square wave shape is excellent when applying pressure, as taught by Nishimura et al. ([0010]).

Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) would have the following shape:



Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) has a plurality of first wall, and a plurality of second flat wall connected to the first wall and arranged substantially at right angles to the first wall.

Regarding claim 2, Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) has the first wall and second wall are alternately and continuously formed (please refer to drawing of square shaped wave).

Regarding claim 3, Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) is between two relatively flat surfaces (Yamashita et al. drawing 1). Referring to Applicant's specification for

description of a lattice-shaped ventilation frame, the limitation is interpreted to mean a rectangular wave shaped radiating member between two relatively flat surfaces.

Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) is an equilateral rectangular wave shaped radiating member between two relatively flat surfaces (Yamashita et al. drawing 1; Nishimura et al. [0010]).

Regarding claim 4, Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) is made of aluminum (Nishimura et al. Abstract, [0010]).

Regarding claim 5, Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) has a thickness of 0.1 mm to 2 mm (Nishimura et al. Abstract), which overlaps Applicant's claims range of 0.1 mm or less.

In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. *In re Wertheim*, 541 F.2d 257, 191USPQ 90 (CCPA 1976); *In re Woodruff*, 919 F.2d 1575, 16 USPQ2d 1934 (Fed. Cir. 1990); *In re Geisler*, 116 F.3d 1465, 1469-71, 43 USPQ2d 1362, 1365-66 (Fed. Cir. 1997). See MPEP 2144.05.

Regarding claim 6, Yamashita et al. modified by Nishimura et al.'s square wave shaped air-cooling spacer (2) (Applicant's radiating member) is a single plate material in the form of a square wave shape (drawing 1; [0010]).

Allowable Subject Matter

13. Claims 12 and 13 are allowed.
14. The following is a statement of reasons for the indication of allowable subject matter: Claims 12 and 13 includes the distinguishing limitation "a cutting step of cutting said first wall and said second wall, without cutting said third wall; and a bending step of bending said third wall, which is not cut in said cutting step at the cutting position, until said third wall opposes each other." The closest prior art of reference is Nishimura et al. (JP 10-112301). Nishimura et al. provides a square wave shaped radiating member. However does not seem to teach or fairly suggest the cutting and bending method steps. There is also no motivation for a person having ordinary skill in the art to modify this reference to include such a teaching.

Correspondence/Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katherine Turner whose telephone number is (571)270-5314. The examiner can normally be reached on Monday through Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Susy Tsang-Foster can be reached on (571)272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/K. T./
Examiner, Art Unit 1795

/SUSY N TSANG-FOSTER/
Supervisory Patent Examiner, Art Unit 1795